



## ON THE VERIDICALITY OF THE PHYSICAL SELF-CONCEPT – EFFECTS OF A SPECIFIC INTERVENTION IN PHYSICAL EDUCATION

Schmidt Mirko, Valkanover Stefan, Conzelmann Achim

Institute of Sport Science, University of Berne, Switzerland

### Introduction

Promoting the beneficial effect of sport on personality development is a frequently used strategy in the legitimization debate of physical education lessons. Although various attempts have been carried out to empirically support this claim, no clear relations between physical activity in school and personality development have been identified. Marked progress has just been made in the recent past in the adaptation of the topic “Sport and Personality Development” (Conzelmann, 2008). The turning away from traits, the engagement with cognitive approaches such as the self-concept and the consideration of dynamic-interactional development concepts have led to a better consistency at the theoretical level (Conzelmann, 2009). However, deficits are still evident in the empirical implementation of this topic and very few systematic intervention studies regarding school sport have been carried out as yet. Furthermore most intervention studies carried out to date dealt with *improving* the self-concept. The question is, from both a pedagogic as well as a psychological perspective, if it would not make more sense to concentrate on a *veridical* instead of an enhanced self-concept. An underestimation of the physical abilities can hinder performance (Weiss & Horn, 1990) and influence the motivational process in a negative way (Weiss & Ferrer-Caja, 2002) while an overestimation can provoke risky behavior (Schwebel & Plumert, 1999) or alienation from important social interaction partners (Baumeister et al., 2003). Thus, the veridicality (Helmke, 1992), that is the reality-relatedness of the self-concept, is questioned.

### Method

*Sample and design.* The data of the following study were taken from the Bernese Intervention Study of Physical Education (BISS; Conzelmann & Valkanover, 2006) which explores the influence of regular P.E. lessons on self-concept development via 3 interventions with 5<sup>th</sup> grade schoolchildren. The aim of the “performance”-intervention – one of those interventions – was to improve the veridicality of two facets of the physical self-concept (endurance and strength) in two lessons per week over a period of ten weeks. To achieve this aim, the teachers in the test group (n = 114, 57 girls, mean age = 11.9, SD = .59) were instructed to create a task-orientated climate and to give appropriate and contingent feedback. To acknowledge and to become aware of what they have learned and how they have progressed, the pupils had to fill in a learn diary during the whole intervention time. The control group (n = 115, 60 girls, mean age = 12.0, SD = .55) attended regular P.E. lessons.

*Perceived physical competence.* The physical self-concept was measured with the two subscales “endurance” and “strength” consisting of 6 items of the physical self-concept scales (PSK; Stiller, Würth & Alfermann, 2004) which were translated from a former version of the Physical Self-Description Questionnaire (PSDQ; Marsh & Redmayne, 1994). Cronbach alpha coefficients for the two scales range from .85 to .88, thus showing high internal consistency. All items were rated on four-point Likert-type scales ranging from 1 (strongly disagree) to 4 (strongly agree).

*Actual physical competence.* The pupils’ maximal aerobic capacity was assessed by the multistage 20 metre shuttle run test (Léger, Mercier, Gadoury & Lambert, 1988) where subjects have to run back and forth on a 20 m course and must touch the 20 m line using their foot. At the same time a sound signal is emitted from a prerecorded tape. Frequency of the sound signals is increased 0.5 km/h each minute from a starting speed of 8.5 km/h. The test ends when a subject can’t reach the line at the signal for two times in a row. Test item score is the achieved time in seconds. The reported test-retest reliability coefficient is .89 for children. The actual maximal strength of upper extremities was assessed by a shot-put performance test. The pupils had to push a medicine ball (2 kg) with two hands as far as possible sitting on a bench of 38 cm height (Bös & Wohlmann, 1987). The feet were parallel to each other, the shoulder pressed against the wall, and the ball held against chest. Test item score (best of two attempts) is the achieved distance in cm. Validity and reliability have been demonstrated (Wyss, Marti, Rossi, Kohler & Mäder, 2007). The reported test-retest reliability coefficient is .83.

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### Results

In both facets of the physical self-concept the veridicality of the test group (strength:  $r_{T1} = .38$  /  $r_{T2} = .45$ ;  $z = -1.01$ ;  $p > .05$ ) improved more than the veridicality of the control group (strength:  $r_{T1} = .17$  /  $r_{T2} = .19$ ;  $z = -.24$ ;  $p > .05$ ). Whereas just in the endurance the correlational difference in the test group ( $r_{T1} = .34$  /  $r_{T2} = .60$ ;  $z = -3.22$ ;  $p < .05$ ) was significantly different (control group:  $r_{T1} = .56$  /  $r_{T2} = .54$ ;  $z = .29$ ;  $p > .05$ ).

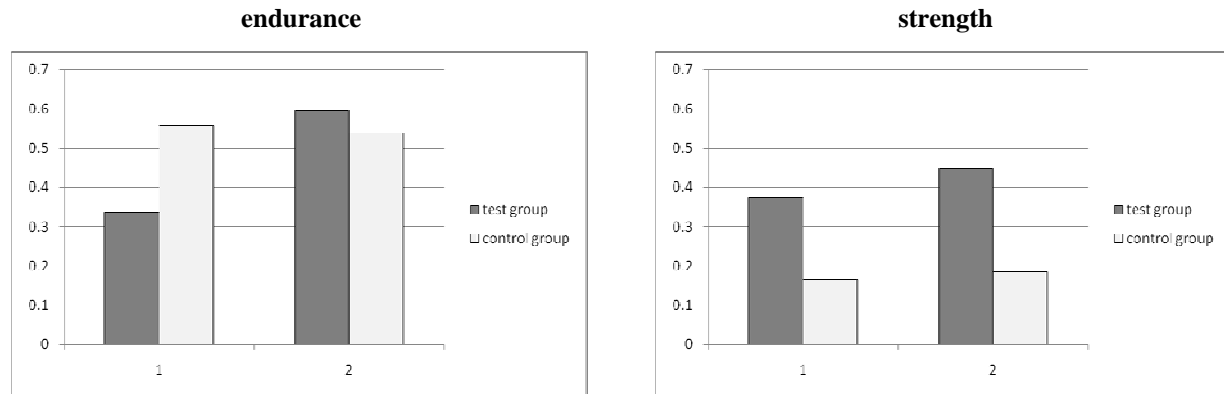


Figure 1. Pearson correlations between actual and perceived physical competence.

### Discussion / Conclusions

The aim of the present study was to examine the influence of a „performance“-intervention in regular P.E. lessons on the veridicality of two facets of the physical self-concept. The reported results show that at least for cognitive areas of personality the focused aims of P.E. can be achieved. Further evaluation of the data is needed to understand the mechanism working in self-concept development in P.E.

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